

**AMENDMENT(S) TO THE CLAIMS**

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3 1. (previously presented): A method comprising:  
4 receiving a data bitstream that includes object-based media information;  
5 associating portions of the object-based media information with a plurality  
6 of different transmission priority levels; and  
7 selectively transmitting the portions of the object-based media information  
8 along with the associated plurality of different transmission priority levels over a  
9 network that is configured to provide differential services based at least on the  
10 plurality of different transmission priority levels.

11  
12 2. (original): The method as recited in Claim 1, wherein the data  
13 bitstream includes object-based media information for a single object.

14  
15 3. (original): The method as recited in Claim 2, wherein the single  
16 object is a video object.

17  
18 4. (original): The method as recited in Claim 2, wherein the single  
19 object is an audio object.  
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1           5.     (previously presented): The method as recited in Claim 1, wherein  
2     associating portions of the object-based media information with the plurality of  
3     different transmission priority levels further includes:

4                 placing the portions of the object-based media information in a plurality of  
5     data packets, wherein each data packet is associated with a specific transmission  
6     priority of the plurality of different transmission priority levels.

7  
8           6.     (original): The method as recited in Claim 5, wherein at least one of  
9     the plurality of data packets includes non-contiguous portions of data from within  
10    the data bitstream.

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12          7.     (previously presented): The method as recited in Claim 5, wherein  
13    selectively transmitting the portions of the object-based media information over  
14    the network further includes:

15                causing the network to selectively halt the transmission of a first data  
16    packet carrying object-based media information that is associated with a first  
17    priority level prior to halting the transmission of a second data packet carrying  
18    object-based media information that is associated with a second priority level if  
19    the second priority level is higher than the first priority level, should a need arise  
20    while transmitting the first and second data packets.

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22          8.     (original): The method as recited in Claim 1, wherein the  
23    differential services provide different substantially guaranteed Quality of Service  
24    (QoS) transmission capabilities for different transmission priority levels.

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9. (original): The method as recited in Claim 3, wherein the object-based media information includes a plurality of different types of video frame layers selected from a group that includes Intra (I) coded frame layers, Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I) coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-directionally (B) predicted frame enhancement layers.

10. (original): The method as recited in Claim 9, wherein associating portions of the object-based media information with the plurality of different transmission priority levels further includes:

setting the transmission priority levels based at least in part on the type of video frame layer.

11. (original): The method as recited in Claim 10, wherein setting the transmission priority levels based at least in part on the type of video frame layer further includes:

causing Intra (I) coded frame layer data to have a higher transmission priority level than Predicted (P) frame layer data;

causing Predicted (P) frame layer data to have a higher transmission priority level than Bi-directionally (B) predicted frame layer data;

causing Bi-directionally (B) predicted frame layer data to have a higher transmission priority level than Intra (I) coded frame enhancement layer data;

1 causing Intra (I) coded frame enhancement layer data to have a higher  
2 transmission priority level than Predicted (P) frame enhancement layer data; and  
3 causing Predicted (P) frame enhancement layer data to have a higher  
4 transmission priority level than Bi-directionally (B) predicted frame enhancement  
5 layer data.  
6

7 12. (original): The method as recited in Claim 3, wherein the object-  
8 based media information further includes a plurality of different types of video  
9 object information selected from a group that includes control information, shape  
10 information, motion information and texture information.  
11

12 13. (original): The method as recited in Claim 12, wherein associating  
13 portions of the object-based media information with the plurality of different  
14 transmission priority levels further includes:

15 setting the transmission priority levels based at least in part on the type of  
16 video object information.  
17

18 14. (original): The method as recited in Claim 13, wherein setting the  
19 transmission priority levels based at least in part on the type of video object  
20 information further includes:

21 causing at least a portion of the control information to have a higher  
22 transmission priority level than at least a portion of the shape information.  
23

1           15. (original): The method as recited in Claim 13, wherein setting the  
2 transmission priority levels based at least in part on the type of video object  
3 information further includes:

4           causing at least a portion of the shape information to have a higher  
5 transmission priority level than at least a portion of the motion information.  
6

7           16. (original): The method as recited in Claim 13, wherein setting the  
8 transmission priority levels based at least in part on the type of video object  
9 information further includes:

10           causing at least a portion of the motion information to have a higher  
11 transmission priority level than at least a portion of the texture information.  
12

13           17. (original): The method as recited in Claim 13, wherein setting the  
14 transmission priority levels based at least in part on the type of video object  
15 information further includes:

16           causing at least a portion of the texture information to have a higher  
17 transmission priority level than at least a portion of the shape information.  
18

19           18. (original): The method as recited in Claim 3, wherein:

20           the object-based media information includes a plurality of different types of  
21 video frame layers selected from a group that includes Intra (I) coded frame layers,  
22 Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I)  
23 coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-  
24 directionally (B) predicted frame enhancement layers;

1 the object-based media information further includes a plurality of different  
2 types of video object information selected from a group that includes control  
3 information, shape information, motion information and texture information; and

4 wherein associating portions of the object-based media information with  
5 the plurality of different transmission priority levels further includes setting the  
6 transmission priority levels based at least in part on the type of video frame layer  
7 and the type of video object information.

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9 19. (original): The method as recited in Claim 18, wherein setting the  
10 transmission priority levels based at least in part on the type of video frame layer  
11 and the type of video object information further includes:

12 setting control information to a class 0 transmission priority level;

13 setting shape information and texture DC information of at least one Intra  
14 (I) coded frame layer to a class 1 transmission priority level;

15 setting texture AC information of the Intra (I) coded frame base layer to a  
16 class 2 transmission priority level;

17 setting shape information and motion information of at least one Predicted  
18 (P) frame layer to a class 3 transmission priority level;

19 setting texture information of the Predicted (P) frame layer to a class 4  
20 transmission priority level; and

21 setting shape information, motion information and texture information of at  
22 least one Bi-directionally (B) predicted frame base layer to a class 5 transmission  
23 priority level, and

1            wherein the class 0 transmission priority level is higher than the class 1  
2            transmission priority level, the class 1 transmission priority level is higher than the  
3            class 2 transmission priority level, the class 2 transmission priority level is higher  
4            than the class 3 transmission priority level, the class 3 transmission priority level is  
5            higher than the class 4 transmission priority level, and the class 4 transmission  
6            priority level is higher than the class 5 transmission priority level.

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8            20.    (original): The method as recited in Claim 1, further comprising:  
9            receiving at least one down-stream preference with regard to the object-  
10           based media information; and  
11           selectively transmitting at least one of the portions of the object-based  
12           media information over the network based on the down-stream preference.

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14           21.    (original): The method as recited in Claim 1, further comprising:  
15           receiving at least one down-stream preference with regard to the object-  
16           based media information; and  
17           selectively halting the transmission of at least one of the portions of the  
18           object-based media information over the network based on the down-stream  
19           preference.

20  
21           22.    (original): The method as recited in Claim 1, wherein the data  
22           bitstream includes MPEG-4 encoded video data.

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1           23.   (original): The method as recited in Claim 1, wherein the network is  
2   an Internet Protocol (IP) based network.

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4           24.   (previously presented): An arrangement comprising:  
5       a server device configured to provide a data bitstream that includes object-  
6       based media information having portions of the object-based media information  
7       associated with a plurality of different transmission priority levels and that  
8       includes identifications of the associated plurality of different transmission priority  
9       levels;

10      at least one client device; and

11      at least one communication network operatively coupled between the server  
12      device and the client device, the communication network being configured to  
13      provide selective differential services based at least on the plurality of different  
14      transmission priority levels of the portions of the object-based media information.

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16           25.   (original): The arrangement as recited in Claim 24, wherein the data  
17   bitstream includes object-based media information for a single object.

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19           26.   (original): The arrangement as recited in Claim 25, wherein the  
20   single object is a video object.

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22           27.   (original): The arrangement as recited in Claim 25, wherein the  
23   single object is an audio object.

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1           28. (previously presented): The arrangement as recited in Claim 24,  
2 wherein the server device is further configured to place the portions of the object-  
3 based media information in a plurality of data packets, wherein each data packet is  
4 associated with a specific transmission priority of the plurality of different  
5 transmission priority levels.

6  
7           29. (original): The arrangement as recited in Claim 28, wherein at least  
8 one of the plurality of data packets includes non-contiguous portions of data from  
9 within the data bitstream.

10  
11           30. (previously presented): The arrangement as recited in Claim 28,  
12 wherein the communication network is further configured to selectively halt the  
13 transmission of a first data packet carrying object-based media information that is  
14 associated with a first priority level prior to halting the transmission of a second  
15 data packet carrying object-based media information that is associated with a  
16 second priority level if the second priority level is higher than the first priority  
17 level, should a need arise while transmitting the first and second data packets.

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19           31. (original): The arrangement as recited in Claim 24, wherein the  
20 selective differential services provide different substantially guaranteed Quality of  
21 Service (QoS) transmission capabilities for different transmission priority levels.

22

1           32. (original): The arrangement as recited in Claim 26, wherein the  
2 object-based media information includes a plurality of different types of video  
3 frame layers selected from a group that includes Intra (I) coded frame layers,  
4 Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I)  
5 coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-  
6 directionally (B) predicted frame enhancement layers.

7  
8           33. (original): The arrangement as recited in Claim 32, wherein the  
9 server device is further configured to set the transmission priority levels based at  
10 least in part on the type of video frame layer.

11  
12           34. (original): The arrangement as recited in Claim 33, wherein the  
13 server device is further configured to:

14               set Intra (I) coded frame layer data to a higher transmission priority level  
15 than Predicted (P) frame layer data;

16               set Predicted (P) frame layer data to a higher transmission priority level  
17 than Bi-directionally (B) predicted frame layer data;

18               set Bi-directionally (B) predicted frame layer data to a higher transmission  
19 priority level than Intra (I) coded frame enhancement layer data;

20               set Intra (I) coded frame enhancement layer data to a higher transmission  
21 priority level than Predicted (P) frame enhancement layer data; and

22               set Predicted (P) frame enhancement layer data to a higher transmission  
23 priority level than Bi-directionally (B) predicted frame enhancement layer data.

24

1           35. (original): The arrangement as recited in Claim 26, wherein the  
2 object-based media information further includes a plurality of different types of  
3 video object information selected from a group that includes control information,  
4 shape information, motion information and texture information.

5  
6           36. (original): The arrangement as recited in Claim 35, wherein the  
7 server device is further configured to set the transmission priority levels based at  
8 least in part on the type of video object information.

9  
10          37. (original): The arrangement as recited in Claim 36, wherein the  
11 server device is further configured to set at least a portion of the control  
12 information to a higher transmission priority level than at least a portion of the  
13 shape information.

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15          38. (original): The arrangement as recited in Claim 36, wherein the  
16 server device is further configured to set at least a portion of the shape information  
17 to a higher transmission priority level than at least a portion of the motion  
18 information.

19  
20          39. (original): The arrangement as recited in Claim 36, wherein the  
21 server device is further configured to set at least a portion of the motion  
22 information to a higher transmission priority level than at least a portion of the  
23 texture information.

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1           40. (original): The arrangement as recited in Claim 36, wherein the  
2 server device is further configured to set at least a portion of the texture  
3 information to a higher transmission priority level than at least a portion of the  
4 shape information.

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6           41. (original): The arrangement as recited in Claim 26, wherein:  
7 the object-based media information includes a plurality of different types of  
8 video frame layers selected from a group that includes Intra (I) coded frame layers,  
9 Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I)  
10 coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-  
11 directionally (B) predicted frame enhancement layers;

12 the object-based media information further includes a plurality of different  
13 types of video object information selected from a group that includes control  
14 information, shape information, motion information and texture information; and

15 wherein the server device is further configured to set the transmission  
16 priority levels based at least in part on the type of video frame layer and the type  
17 of video object information.

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19           42. (original): The arrangement as recited in Claim 41, wherein the  
20 server device is further configured to:

21 set control information to a class 0 transmission priority level;

22 set shape information and texture DC information of at least one Intra (I)  
23 coded frame layer to a class 1 transmission priority level;

1 set texture AC information of the Intra (I) coded frame base layer to a class  
2 2 transmission priority level;

3 set shape information and motion information of at least one Predicted (P)  
4 frame layer to a class 3 transmission priority level;

5 set texture information of the Predicted (P) frame layer to a class 4  
6 transmission priority level; and

7 set shape information, motion information and texture information of at  
8 least one Bi-directionally (B) predicted frame base layer to a class 5 transmission  
9 priority level, and

10 where the class 0 transmission priority level is higher than the class 1  
11 transmission priority level, the class 1 transmission priority level is higher than the  
12 class 2 transmission priority level, the class 2 transmission priority level is higher  
13 than the class 3 transmission priority level, the class 3 transmission priority level is  
14 higher than the class 4 transmission priority level, and the class 4 transmission  
15 priority level is higher than the class 5 transmission priority level.

16  
17 43. (original): The arrangement as recited in Claim 24, wherein the  
18 network is further configured to:

19 receive at least one down-stream preference generated within the  
20 communication network or by the client device with regard to the object-based  
21 media information; and

22 selectively transmit at least one of the portions of the object-based media  
23 information based on the down-stream preference.

24

1           44. (original): The arrangement as recited in Claim 24, wherein the  
2 network is further configured to:

3           receive at least one down-stream preference generated within the  
4 communication network or by the client device with regard to the object-based  
5 media information; and

6           selectively halt the transmission at least one of the portions of the object-  
7 based media information based on the down-stream preference.

8  
9           45. (original): The arrangement as recited in Claim 24, wherein the data  
10 bitstream includes MPEG-4 encoded video data.

11  
12           46. (original): The arrangement as recited in Claim 24, wherein the  
13 network is an Internet Protocol (IP) based network.

14  
15           47. (currently amended): A method for use in a communications node  
16 within a network, the method comprising:

17           receiving data at the communications node that includes object-based media  
18 information that is packetized according to different transmission priority levels,  
19 the data including indications of the different transmission priority levels; and

20           selectively outputting from the communications node the portions of the  
21 object-based media information based at least on the indications of the plurality of  
22 different transmission priority levels included in the received data.

23

1           48. (original): The method as recited in Claim 47, wherein the data  
2           bitstream includes object-based media information for a single video object.

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4           49. (original): The method as recited in Claim 47, wherein the data  
5           bitstream includes object-based media information for a single audio object.

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7           50. (original): The method as recited in Claim 47, wherein the  
8           communication node is configured to support differential services that provide  
9           different substantially guaranteed Quality of Service (QoS) transmission  
10          capabilities for the different transmission priority levels.

11  
12          51. (original): The method as recited in Claim 47, wherein the object-  
13          based media information includes a plurality of different types of video frame  
14          layers selected from a group that includes Intra (I) coded frame layers, Predicted  
15          (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I) coded frame  
16          enhancement layers, Predicted (P) frame enhancement layers, and Bi-directionally  
17          (B) predicted frame enhancement layers.

18  
19          52. (original): The method as recited in Claim 51, wherein the received  
20          data is packetized according to different transmission priority levels based at least  
21          in part on the type of video frame layer.

22  
23          53. (original): The method as recited in Claim 52, wherein, within the  
24          received data, at least one of the following statements is true:

1 the Intra (I) coded frame layer data has a higher transmission priority level  
2 than Predicted (P) frame layer data;

3 the Predicted (P) frame layer data has a higher transmission priority level  
4 than Bi-directionally (B) predicted frame layer data;

5 the Bi-directionally (B) predicted frame layer data has a higher  
6 transmission priority level than Intra (I) coded frame enhancement layer data;

7 the Intra (I) coded frame enhancement layer data has a higher transmission  
8 priority level than Predicted (P) frame enhancement layer data; and

9 the Predicted (P) frame enhancement layer data has a higher transmission  
10 priority level than Bi-directionally (B) predicted frame enhancement layer data.  
11

12 54. (original): The method as recited in Claim 47, wherein the object-  
13 based media information further includes a plurality of different types of video  
14 object information selected from a group that includes control information, shape  
15 information, motion information and texture information.  
16

17 55. (original): The method as recited in Claim 54, wherein the received  
18 data is packetized according to different transmission priority levels based at least  
19 in part on the type of video object information.  
20

21 56. (original): The method as recited in Claim 55, wherein at least a  
22 portion of the control information has a higher transmission priority level than at  
23 least a portion of the shape information.  
24



1           57. (original): The method as recited in Claim 55, wherein at least a  
2           portion of the shape information has a higher transmission priority level than at  
3           least a portion of the motion information.

4  
5           58. (original): The method as recited in Claim 55, wherein at least a  
6           portion of the motion information has a higher transmission priority level than at  
7           least a portion of the texture information.

8  
9           59. (original): The method as recited in Claim 55, wherein at least a  
10          portion of the texture information has a higher transmission priority level than at  
11          least a portion of the shape information.

12  
13          60. (original): The method as recited in Claim 47, wherein:  
14          the object-based media information includes a plurality of different types of  
15          video frame layers selected from a group that includes Intra (I) coded frame layers,  
16          Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I)  
17          coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-  
18          directionally (B) predicted frame enhancement layers;

19          the object-based media information further includes a plurality of different  
20          types of video object information selected from a group that includes control  
21          information, shape information, motion information and texture information; and

22          wherein the received data is packetized according to different transmission  
23          priority levels based at least in part on the type of video frame layer and the type  
24          of video object information.

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61. (original): The method as recited in Claim 60, wherein:

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control information has a class 0 transmission priority level;

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shape information and texture DC information of at least one Intra (I) coded

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frame layer each have a class 1 transmission priority level;

6

texture AC information of the Intra (I) coded frame base layer has a class 2

7

transmission priority level;

8

shape information and motion information of at least one Predicted (P)

9

frame layer each have a class 3 transmission priority level;

10

texture information of the Predicted (P) frame layer has a class 4

11

transmission priority level; and

12

shape information, motion information and texture information of at least

13

one Bi-directionally (B) predicted frame base layer each have a class 5

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transmission priority level, and

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wherein the class 0 transmission priority level is higher than the class 1

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transmission priority level, the class 1 transmission priority level is higher than the

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class 2 transmission priority level, the class 2 transmission priority level is higher

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than the class 3 transmission priority level, the class 3 transmission priority level is

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higher than the class 4 transmission priority level, and the class 4 transmission

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priority level is higher than the class 5 transmission priority level.

21

1           62.   (original): The method as recited in Claim 47, further comprising:  
2           receiving at least one down-stream preference with regard to the object-  
3           based media information; and  
4           selectively outputting at least one of the portions of the object-based media  
5           information based on the down-stream preference.

6  
7           63.   (original): The method as recited in Claim 47, wherein the received  
8           data includes MPEG-4 encoded video data.

9  
10          64.   (original): The method as recited in Claim 47, wherein the received  
11          data includes Internet Protocol (IP) data.

1           65. (original): A system comprising:

2           at least one client device configured to receive prioritized video object-  
3           based data packets and output control requests relating to a video object;

4           at least one server device configured to output prioritized object-based data  
5           packets representing the video object, the prioritized object-based data packets  
6           being prioritized based at least in part on the type of data as selected from a group  
7           comprising control data, shape data, motion data, and texture data; and

8           at least one video transmission agent (VTA) coupled to receive the  
9           prioritized object-based data packets from the server device and the control  
10          requests from the client device, and to selectively output at least a portion of the  
11          received prioritized object-based data packets to the client device based in  
12          response to the control requests.

13  
14          66. (original): The system as recited in Claim 65, further comprising:

15          a network operatively coupled between the server device and the client  
16          device, and wherein the video transmission agent (VTA) is operatively configured  
17          within the network.

18  
19          67. (original): The system as recited in Claim 66, wherein the network  
20          is further configured to provide differential services to the prioritized object-based  
21          data packets, such that prioritized object-based data packets having lower priority  
22          levels are selectively dropped should the network become congested.

1           68. (currently amended): A computer-readable medium having a data  
2 structure, comprising:

3           a first field containing identifying data associated with a portion of a data  
4 bitstream that represents a video object;

5           at least one second field that is derived from the first field and includes data  
6 representing object-based video information for the video object that has been  
7 classified as having a specific transmission priority level based on at least one type  
8 of object-based video information selected from a group comprising control  
9 information, shape information, motion information, and texture information; and

10          a third field comprising a network packet header and containing ~~identifying~~  
11 data ~~identifying associated with~~ the specific transmission priority level of the data  
12 in the at least one second field.

13  
14          69. (canceled)

15  
16          70. (original): A computer-readable medium having computer-  
17 executable instructions for performing the steps recited in Claim 1.

18  
19          71. (original): A computer-readable medium having computer-  
20 executable instructions for performing the steps recited in Claim 47.

1           72. (currently amended): A method comprising:  
2           receiving a data bitstream that includes object-based media information;  
3           associating portions of the object-based media information with a plurality  
4           of different transmission priority levels based, at least in part, on whether a given  
5           portion of the object-based media information comprises shape information or  
6           texture information; wherein shape information is associated with a higher  
7           transmission priority level than texture information within a single frame; and  
8           selectively transmitting the portions of the object-based media information  
9           over a network that is configured to provide differential services based at least on  
10          the plurality of different transmission priority levels.